



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------------------------|-------------|----------------------|----------------------|------------------|
| 10/522,404 | 01/26/2005 | Takeshi Imamura | 03500.017461 | 5542 |
| 5514 | 7590 | 09/22/2006 | EXAMINER | |
| FITZPATRICK CELLA HARPER & SCINTO | | | LEVKOVICH, NATALIA A | |
| 30 ROCKEFELLER PLAZA | | | ART UNIT | |
| NEW YORK, NY 10112 | | | PAPER NUMBER | |

1743

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/522,404

Applicant(s)

IMAMURA ET AL.

Examiner

Natalia Levkovich

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 9-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendments and remarks dated 07/05/2006 have been acknowledged by the Examiner and entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in the 04/05/2006 Office Action.

Claim Rejections - 35 USC § 112

3. Claims 1-4, 6 and 9-10 are rejected under 35 U.S.C. 112, second paragraph, as being unclear for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, as amended, recites a plurality of unites where the 'liquid introducing section of one unit' and the 'liquid leading out section of another unit are connected'. The claim does not clearly set forth structural cooperation between the units for the embodiments comprising more than two units.

Claim Rejections - 35 USC § 102

4. The 35 U.S.C. 102 (b) rejection of claims 1-3, as being anticipated by Natelson, is withdrawn, in view of latest amendments.

5. Claims 1-4, 6 and 9-10 are rejected under 35 U.S.C. 102(b) as anticipated by Anderson et al. (US 6168948).

Anderson discloses an integrated nucleic acid analysis system comprising a plurality of chambers ['units' – Ex.]. Each chamber (see Figure 24) has inlet, outlet ['liquid introducing / leading out sections' – Ex.], 'liquid containing section' 2502 and sealing 2510. As illustrated in Figure 6, the chambers are connected in series." Fluids can be drawn into, or ejected from, the chamber by applying vacuums or pressures' means for applying energy for ejecting the liquid' – Ex.] to the pneumatic ports 2504, 2506" (Col.50, line 40 plus).

Referring to claim 3, Anderson discloses in Figure 7A a reaction chamber incorporating a sonic vibrating element 702 "for use in mixing the contents of the reaction chamber"

With respect to claim 4, Anderson teaches that "In some cases, it may be desirable to prevent back flow from a previous or subsequent reaction chamber which is at a higher pressure. This may be accomplished by equipping the fluid channels between the reaction chambers 644 with one-way check valves" (Col.28, lines 5-10).

In reference to claim 6, the embodiment illustrated in Figure 3, includes chamber 210 which has at least two 'liquid introducing sections' capable of being used for mixing two liquids.

Claim Rejections - 35 USC § 103

6. The 35 U.S.C. 103 (a) rejections of claims 4, 6 and 9-10 is withdrawn in view of

latest amendments.

Response to Arguments

7. Applicant's arguments filed on 07/05/2006 have been fully considered but they are moot in view of new grounds of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Unger et al. (US 6951632) – discloses micro-fluidic channel units employed for injecting /ejecting fluids; the units can be connected in series or in parallel;

Gilbert et al.(US 20030210607) – discloses a multiple-stage dilution system comprising sequentially connected units for fluid transfer.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Levkovich whose telephone number is 571-272-2462. The examiner can normally be reached on Mon-Fri, 8 a.m.-4p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jill Warden
Supervisory Patent Examiner
Technology Center 1700